AMENDMENTS TO THE CLAIMS

For the convenience of the Examiner, all claims have been presented whether or not an amendment has been made. The claims have been amended as follows:

1. **(Original)** A circuit for frequency translating a radio frequency signal, comprising:

a plurality of mixer stages, each mixer stage associated with a particular range of frequencies of a radio frequency signal;

a switching circuit operable to communicate the radio frequency signal to a selected one of the plurality of mixer stages in response to a control signal;

the selected mixer stage comprising:

a phase generation circuit operable to generate a plurality of phase signals; and

at least one mixer operable to combine the radio frequency signal with one of the plurality of phase signals to generate at least a portion of an intermediate frequency signal, wherein the radio frequency signal is weighted according to a weighting factor.

2. **(Original)** The circuit of Claim 1, wherein:

the radio frequency signal comprises a bandwidth approximately ranging from 48 MHz to 852 MHz;

the radio frequency signal comprises a signal of interest approximately ranging from 212 MHz to 424 MHz;

the selected mixer stage comprises:

a first mixer operable to combine the radio frequency signal weighted according to a first weighting factor with a first phase signal to generate a first output;

a second mixer operable to combine the radio frequency signal weighted according to a second weighting factor with a second phase signal to generate a second output;

a third mixer operable to combine the radio frequency signal weighted according to a third weighting factor with a third phase signal to generate a third output;

a fourth mixer operable to combine the radio frequency signal weighted according to a fourth weighting factor with a fourth phase signal to generate a fourth output; and

a summing circuit operable to combine the first, second, third, and fourth outputs to generate at least a portion of the intermediate frequency signal.

3. **(Original)** The circuit of Claim 2, wherein the phase generation circuit comprises a frequency divider having a division factor of eight coupled to a plurality of delay circuits to generate the first, second, third, and fourth phase signals.

4. **(Previously Presented)** The circuit of Claim 1, wherein:

the radio frequency signal comprises a bandwidth approximately ranging from 48 MHz to 852 MHz;

the radio frequency signal comprises a signal of interest ranging from 57 MHz to 212 MHz;

the selected mixer stage comprises:

a first mixer operable to combine the radio frequency signal weighted according to a first weighting factor with a first phase signal to generate a first output;

a second mixer operable to combine the radio frequency signal weighted according to a second weighting factor with a second phase signal to generate a second output;

a third mixer operable to combine the radio frequency signal weighted according to a third weighting factor with a third phase signal to generate a third output;

a fourth mixer operable to combine the radio frequency signal weighted according to a fourth weighting factor with a fourth phase signal to generate a fourth output;

a fifth mixer operable to combine the radio frequency signal weighted according to a fifth weighting factor with a fifth phase signal to generate a fifth output;

a sixth mixer operable to combine the radio frequency signal weighted according to a sixth weighting factor with a sixth phase signal to generate a sixth output;

a seventh mixer operable to combine the radio frequency signal weighted according to a seventh weighting factor with a seventh phase signal to generate a seventh output;

an eighth mixer operable to combine the radio frequency signal weighted according to an eighth weighting factor with an eighth phase signal to generate an eighth output; and

a summing circuit operable to combine the first, second, third, fourth, fifth, sixth, seventh, and eighth outputs to generate at least a portion of the intermediate frequency signal.

5. **(Original)** The circuit of Claim 4, wherein:

the radio frequency signal comprises a signal of interest within the range of 106 MHz to 213 MHz; and

the phase generation circuit comprises a frequency divider having a division factor of sixteen coupled to a plurality of delay circuits to generate the first, second, third, fourth, fifth, sixth, seventh, and eighth phase signals.

6. **(Original)** The circuit of Claim 4, wherein:

the radio frequency signal comprises a signal of interest within the range of 57 MHz to 107 MHz; and

the phase generation circuit comprises a frequency divider having a division factor of thirty-two coupled to a plurality of delay circuits to generate the first, second, third, fourth, fifth, sixth, seventh, and eighth phase signals.

7. **(Original)** The circuit of Claim 1, wherein the control signal identifies at least one of a signal of interest or a particular range of frequencies associated with a signal of interest.

8. **(Original)** The circuit of Claim 2, wherein:

the summing circuit comprises a first summing circuit; and

the intermediate frequency signal comprises a real part and an imaginary part, the real part formed by the first summing circuit; and

the circuit further comprising:

a plurality of additional mixers, each additional mixer corresponding to one of the first, second, third, and fourth mixers; and

a second summing circuit operable to combine outputs of the additional mixers to form the imaginary part of the intermediate frequency signal.

9. **(Original)** The circuit of Claim 4, wherein:

the summing circuit comprises a first summing circuit; and

the intermediate frequency signal comprises a real part and an imaginary part, the real part formed by the first summing circuit; and

the circuit further comprising:

a plurality of additional mixers, each additional mixer corresponding to one of the first, second, third, fourth, fifth, sixth, seventh, and eighth mixers; and

a second summing circuit operable to combine outputs of the additional mixers to form the imaginary part of the intermediate frequency circuit.

10. **(Original)** A circuit for frequency translating a radio frequency signal, comprising:

a plurality of stages, each stage associated with a particular range of frequencies of a radio frequency signal;

a switching circuit operable to communicate the radio frequency signal to a selected one of the plurality of stages in response to a control signal;

the selected stage comprising:

means for generating a plurality of phase signals; and

means for combining the radio frequency signal with one of the plurality of phase signals to generate at least a portion of an intermediate frequency signal, wherein the radio frequency signal is weighted according to a weighting factor.

11. **(Original)** The circuit of Claim 10, wherein:

the radio frequency signal comprises a bandwidth approximately ranging from 48 MHz to 852 MHz;

the radio frequency signal comprises a signal of interest approximately ranging from 212 MHz to 424 MHz;

the means for combining comprises:

first means for combining the radio frequency signal weighted according to a first weighting factor with a first phase signal to generate a first output;

second means for combining the radio frequency signal weighted according to a second weighting factor with a second phase signal to generate a second output;

third means for combining the radio frequency signal weighted according to a third weighting factor with a third phase signal to generate a third output;

fourth means for combining the radio frequency signal weighted according to a fourth weighting factor with a fourth phase signal to generate a fourth output; and

means for summing the first, second, third, and fourth outputs to generate at least a portion of the intermediate frequency signal.

12. **(Original)** The circuit of Claim 11, wherein the means for generating comprises a frequency divider having a division factor of eight coupled to a plurality of delay circuits to generate the first, second, third, and fourth phase signals.

13. **(Previously Presented)** The circuit of Claim 10, wherein:

the radio frequency signal comprises a bandwidth approximately ranging from 48 MHz to 852 MHz;

the radio frequency signal comprises a signal of interest ranging from 57 MHz to 212 MHz;

the means for combining comprises:

a first means for combining the radio frequency signal weighted according to a first weighting factor with a first phase signal to generate a first output;

a second means for combining the radio frequency signal weighted according to a second weighting factor with a second phase signal to generate a second output;

a third means for combining the radio frequency signal weighted according to a third weighting factor with a third phase signal to generate a third output;

a fourth means for combining the radio frequency signal weighted according to a fourth weighting factor with a fourth phase signal to generate a fourth output;

a fifth means for combining the radio frequency signal weighted according to a fifth weighting factor with a fifth phase signal to generate a fifth output;

a sixth means for combining the radio frequency signal weighted according to a sixth weighting factor with a sixth phase signal to generate a sixth output;

a seventh means for combining the radio frequency signal weighted according to a seventh weighting factor with a seventh phase signal to generate a seventh output;

an eighth means for combining the radio frequency signal weighted according to an eighth weighting factor with an eighth phase signal to generate an eighth output; and

means for summing the first, second, third, fourth, fifth, sixth, seventh, and eighth outputs to generate at least a portion of the intermediate frequency signal.

14. **(Original)** The circuit of Claim 13, wherein:

the radio frequency signal comprises a signal of interest within the range of 106 MHz to 213 MHz; and

the means for generating comprises a frequency divider having a division factor of sixteen coupled to a plurality of delay circuits to generate the first, second, third, fourth, fifth, sixth, seventh, and eighth phase signals.

15. **(Original)** The circuit of Claim 13, wherein:

the radio frequency signal comprises a signal of interest within the range of 57 MHz to 107 MHz; and

the means for generating comprises a frequency divider having a division factor of thirty-two coupled to a plurality of delay circuits to generate the first, second, third, fourth, fifth, sixth, seventh, and eighth phase signals.

16. **(Original)** The circuit of Claim 10, wherein the control signal identifies at least one of a signal of interest or a particular range of frequencies associated with a signal of interest.

17. **(Original)** A method for frequency translating a radio frequency signal, comprising:

communicating a radio frequency signal to a selected one of a plurality of mixer stages in response to a control signal;

generating a plurality of phase signals;

combining the radio frequency signal with at least one of the plurality of phase signals at the selected mixer stage to generate at least a portion of an intermediate frequency signal.

18. **(Original)** The method of Claim 17, further comprising weighting the radio frequency signal according to at least one weighting factor.

19. **(Previously Presented)** The method of Claim 17, wherein:

the radio frequency signal comprises a bandwidth approximately ranging from 48 MHz to 852 MHz;

the radio frequency signal comprises a signal of interest approximately ranging from 212 MHz to 424 MHz;

the combining further comprises:

combining the radio frequency signal weighted according to a first weighting factor with a first phase signal to generate a first output;

combining the radio frequency signal weighted according to a second weighting factor with a second phase signal to generate a second output;

combining the radio frequency signal weighted according to a third weighting factor with a third phase signal to generate a third output;

combining the radio frequency signal weighted according to a fourth weighting factor with a fourth phase signal to generate a fourth output; and

summing the first, second, third, and fourth outputs to generate at least a portion of the intermediate frequency signal.

20. **(Previously Presented)** The method of Claim 17, wherein:

the radio frequency signal comprises a bandwidth approximately ranging from 48 MHz to 852 MHz;

the radio frequency signal comprises a signal of interest ranging from 57 MHz to 212 MHz;

the combining further comprises:

combining the radio frequency signal weighted according to a first weighting factor with a first phase signal to generate a first output;

combining the radio frequency signal weighted according to a second weighting factor with a second phase signal to generate a second output;

combining the radio frequency signal weighted according to a third weighting factor with a third phase signal to generate a third output;

combining the radio frequency signal weighted according to a fourth weighting factor with a fourth phase signal to generate a fourth output;

combining the radio frequency signal weighted according to a fifth weighting factor with a fifth phase signal to generate a fifth output;

combining the radio frequency signal weighted according to a sixth weighting factor with a sixth phase signal to generate a sixth output;

combining the radio frequency signal weighted according to a seventh weighting factor with a seventh phase signal to generate a seventh output;

combining the radio frequency signal weighted according to an eighth weighting factor with an eighth phase signal to generate an eighth output; and

summing the first, second, third, fourth, fifth, sixth, seventh, and eighth outputs to generate at least a portion of the intermediate frequency signal.

21. **(Original)** The method of Claim 17, wherein the control signal identifies at least one of a signal of interest or a particular range of frequencies associated with a signal of interest.